

# U.S. EPA Science Advisory Board

## Committee on Valuing the Protection of Ecological Systems and Services

### Biosketches

#### Committee on Valuing the Protection of Ecological Systems and Services

##### Ascher, William Louis

##### Claremont McKenna College

Dr. William Ascher (Ph.D., Political Science, Yale University) is the Donald C. McKenna Professor of Government and Economics at Claremont McKenna College, where he also serves as Vice President and Dean of the Faculty. His research covers environmental and natural resource policymaking, evaluation and forecasting methodologies, and policymaking processes in developing countries. As the Director of the Duke University Center for International Development Research, he led workshops on the valuation of environmental services for the UN Food and Agriculture Organization and several national governments. He also undertook World Bank-funded research on the valuation of oil and mineral assets. His most recent books are *Why Governments Waste Natural Resources* (1999), *The Caspian Sea: A Quest for Environmental Security* (ed. with Natalia Mirovitskaya, 2000), and *Guide to Sustainable Development and Environmental Policy* (ed. with Natalia Mirovitskaya, 2001). He has also published two books on political-economic forecasting: *Forecasting: An Appraisal for Policymakers and Planners* (1978), and *Strategic Planning and Forecasting* (with William Overholt, 1983). He served on the Advisory Group on the Future of Science, U.S. House of Representatives Subcommittee on Science, Committee on Science, Space and Technology.

##### Biddinger, Gregory

##### ExxonMobil Biomedical Sciences, Inc

Dr. Gregory R. Biddinger is the Environmental Program Coordinator for ExxonMobil Biomedical Sciences, Inc. In his current position he has two primary responsibilities 1) strategic planning related to the environmental aspects of ExxonMobil's business and 2) development of methods and application of Natural Land Management strategies on ExxonMobil's current and former operating properties. He regularly represents ExxonMobil on matters of wildlife conservation and ecological restoration. Dr. Biddinger has practiced professionally as an environmental scientist for over 25 years. He received a doctoral degree from Indiana State University in Life Science (Ecology/Physiology) and post-doctoral training in Ecotoxicology at Cornell University. His experience ranges from the design and implementation of strategic environmental business planning processes for ExxonMobil, to the design and establishment of ecotoxicological testing facilities for Cornell University and the Illinois Environmental Protection Agency. He has been very active in development and review of Ecological Risk Assessment methods, and in drafting international standards related to Ecotoxicology, Risk-Based Corrective Action, Environmental Management and Greenhouse Gas Accounting. Dr. Biddinger has served on the U.S. EPA SAB Ecological Processes and Effects Committee (EPEC). In addition to his work on the U.S. EPA SAB committees, he has been active in numerous expert panels and peer reviews for U.S. EPA, Organisation for Economic Co-operation and Development and Society for Environmental Toxicology and Chemistry. His other professional activities have included chairmanships with the American Society for Testing and Materials, American Chemistry Council and International Standards Organization technical committees. Dr. Biddinger was the founding chair of the Society of Environmental Toxicology and Chemistry (SETAC) Ecological Risk Assessment Advisory Group (1992-2002). Dr. Biddinger is a founding editor of the SETAC journal *Integrated Environmental Assessment and Management*. His publications cover the areas of aquatic toxicology of inorganic arsenic, phthalate esters, chemical dispersants, and the use of microcosms in estimation of tropic transfer of contaminants. Dr. Biddinger has also published and edited proceedings on ecological risk assessment and risk management, including such topics as the ecological risks of contaminated sediments, decision support systems, sustainable environmental management, integrated environmental decision-making and Landscape ecology and Wildlife Habitat Evaluation.

## **Bostrom, Ann**

### **Georgia Institute of Technology**

Dr. Ann Bostrom (B.A., University of Washington; M.B.A., Western Washington University; Ph.D. in Public Policy Analysis, Carnegie Mellon University; Fulbright graduate studies and Lois Roth Endowment award, Stockholm University; postdoctoral studies in Engineering and Public Policy, Carnegie Mellon University; postdoctoral studies in cognitive aspects of survey methodology, American Statistical Association/National Science Foundation/Bureau of Labor Statistics award) is an Associate Professor in the School of Public Policy and Associate Dean for Research in the Ivan Allen College at the Georgia Institute of Technology. Her research focuses on mental models of hazardous processes (how people understand and make decisions about risks), and is currently funded by the National Science Foundation, and the U.S. Environmental Protection Agency in the areas of air pollution, children's environmental health, and seismic risk. She co-authored *Risk Communication: A Mental Models Approach* (Cambridge University Press, 2001), with M. Granger Morgan, Baruch Fischhoff, and Cynthia J. Atman. Dr. Bostrom served as program director for the Decision Risk and Management Science Program at the National Science Foundation from 1999-2001 and is on the editorial boards of *Risk Analysis* and the *Journal of Risk Research*. She is a former Councilor of the international Society for Risk Analysis, a past Chair of its Risk Communication Specialty group, and received its Chauncey Starr award for a young risk analyst in 1997. Dr. Bostrom is a past member of the executive committee of the U.S. EPA Board of Scientific Counselors, has served on National Research Council, Transportation Research Board, and Institute of Medicine committees, and has consulted for other organizations on risk communication.

## **Boyd, James**

### **Resources for the Future**

Dr. James Boyd has been a Fellow in the Energy and Natural Resources division of Resources for the Future (RFF) since 1992. He received his Ph.D. from the Public Policy and Management Department of the Wharton Business School at the University of Pennsylvania in 1993 and has been a Visiting Professor at the Olin Business School Washington University, St. Louis. He is currently Director of RFF's Energy and Natural Resources Division. Dr. Boyd's work is in the fields of environmental regulation and law and economics, focusing on the economic analysis of environmental liability law and environmental institutions. Work relevant to the panel includes research on the development of indicators to assess the social value of ecosystems. The work's overarching goal is the development and evaluation of economically sound approaches to ecosystem evaluation, in order to make judgments regarding the relative value of different ecosystems.

**Costanza, Robert****University of Vermont**

Dr. Robert Costanza is the Gund Professor of Ecological Economics and Director of the Gund Institute for Ecological Economics at the University of Vermont. Prior to moving to Vermont in August 2002, he was director of the University of Maryland Institute for Ecological Economics, and a professor in the Center for Environmental Science, at Solomons, and in the Biology Department at College Park. Dr. Costanza received his Ph.D. from the University of Florida in 1979 in systems ecology, with a minor in economics. He also has a Masters degree in Architecture and Urban and Regional Planning from the University of Florida. Dr. Costanza is co-founder and past-president of the International Society for Ecological Economics (ISEE) and was chief editor of the society's journal: Ecological Economics from its inception until 9/02. He continues to serve as founding editor of the journal. He currently serves on the editorial board of eight other international academic journals. He is past president of the International Society for Ecosystem Health. In 1982 he was selected as a Kellogg National Fellow, in 1992 he was awarded the Society for Conservation Biology Distinguished Achievement Award and in 1993 he was selected as a Pew Scholar in Conservation and the Environment. In 1998 he was awarded the Kenneth Boulding Memorial Award for Outstanding Contributions in Ecological Economics. In 2000 he received an honorary doctorate in natural sciences from Stockholm University. He has served on the following committees and panels: the Scientific Steering Committee for the LOICZ core project of the IGBP; the U.S. EPA National Advisory Council for Environmental Policy and Technology (NACEPT); the National Research Council Board on Sustainable Development, Committee on Global Change Research; the National Research Council, Board on Global Change; the U.S. National Committee for the Man and the Biosphere Program; and the National Marine Fisheries Service Committee on Ecosystem Principles. Dr. Costanza's research has focused on the interface between ecological and economic systems, particularly at larger temporal and spatial scales. This includes landscape level spatial simulation modeling; analysis of energy and material flows through economic and ecological systems; valuation of ecosystem services, biodiversity, and natural capital; and analysis of dysfunctional incentive systems and ways to correct them. He is the author or co-author of over 300 scientific papers.

**Daniel, Terry****University of Arizona**

Dr. Terry C. Daniel is Professor of Psychology and Natural Resources at the University of Arizona. He received his B.S., M.S., and Ph.D. in Psychology at the University of New Mexico, where he was a Ford Foundation Career Scholar and a University Fellow. Professor Daniel is a Fellow in the American Psychological Association (Population and Environmental Psychology), has served as a member of the Advisory and Founding Committees for the Udal Institute for Public Policy Studies, and as an International Adjunct Professor in Behavioral Sciences at the University of Melbourne, Australia. He is a member of the editorial boards for Society and Natural Resources, Journal of Environmental Psychology, and Landscape and Urban Planning. Professor Daniel received the National Environmental Education Foundation Gifford Pinchot Award in 1993 for outstanding contributions to natural resources management education. Research has focused on the development and application of methods for quantifying relationships between bio-physical features of natural environments and human perception and judgement of environmental quality. Specific areas of research include: aesthetic and recreational impacts of forest management; effects of air pollution on perceived visual air quality in National Parks and Wilderness Areas; effects of environmental/ecological information on public perception and acceptance of environmental change; and roles for environmental data visualization and computer simulation in evaluating public response to environmental management policies. Areas of research include: aesthetic and recreational impacts of forest management; effects of air pollution on perceived visual air quality in National Parks and Wilderness Areas; effects of environmental/ecological information on public perception and acceptance of environmental change; and roles for environmental data visualization and computer simulation in evaluating public response to environmental management policies.

## **Freeman, A. Myrick**

### **Bowdoin College**

Dr. A. Myrick Freeman III is Research Professor of Economics at Bowdoin College. In 2000 he retired from teaching after 35 years. Dr. Freeman received his Ph.D. and M.A. in economics from the University of Washington and his B.A. in economics from Cornell University. He has been on the faculty at Bowdoin since that time and has served as chair of the economics department and Director of the Environmental Studies Program there. He has also held appointments as Visiting College Professor at the University of Washington and Robert M. La Follette Distinguished Visiting Professor at the University of Wisconsin-Madison and as a Senior Fellow at Resources for the Future, a research organization in Washington, DC. Dr. Freeman's principal research interests are in the areas of applied welfare economics, benefit-cost analysis, and risk management as applied to environmental and resource management issues. Much of his work has been devoted to the development of models and techniques for estimating the welfare effects of environmental changes such as the benefits of controlling pollution and the damages to natural resources due to releases of chemicals into the environment. He has authored or co-authored eight books including *Air and Water Pollution Control: A Benefit-Cost Assessment*, and *The Measurement of Environmental and Resource Values: Theory and Methods*, now in its second edition. He has also published more than 70 articles and papers in academic journals and edited collections. Dr. Freeman has been a member of the Board on Toxicology and Environmental Health Hazards of the National Academy of Sciences and has served as a member of the Advisory Council on Clean Air Compliance Analysis, the Clean Air Science Advisory Committee (consultant) and the Environmental Economics Advisory Committee of the U.S. Environmental Protection Agency Science Advisory Board.

## **Grossman, Dennis**

### **NatureServe**

Dr. Dennis H. Grossman is the Vice President for Science at NatureServe, a non-profit conservation organization working throughout the Western Hemisphere. He holds a B.S. in ecology from the University of Wisconsin (1976), an M.S. in Plant Ecology from the University of Wisconsin (1982), and a Ph.D. in Plant Ecology from the University of Hawaii (1991). Prior to working at the Conservancy, Dr. Grossman was Chief Ecologist at The Nature Conservancy for 12 years after working as a Research Fellow at the Environment and Policy Institute of the East-West Center in Honolulu. Dr. Grossman has worked extensively with vegetation science, ecology, and conservation biology projects across the Upper Midwest, California, and Hawaii as well as in India and Indonesia. These projects include the inventory, data management and analysis, classification, mapping, conservation ranking and conservation planning for terrestrial, freshwater and coastal-marine communities. Dr. Grossman was a principal developer of the National Vegetation Classification System for the United States that is currently endorsed as an inter-agency standard by the Federal Geographic Data Committee. He has published numerous articles on ecological classification and conservation and currently manages numerous projects associated with the implementation of these methods. Dr. Grossman is a member of the Ecological Society of America and the Society for Conservation Biology, and serves Vegetation Subcommittee of the Federal Geographic Data Committee and on the executive committee of the ESA Panel for Vegetation Classification.

**Heal, Geoffrey****Columbia University**

Dr. Geoffrey Heal is the Paul Garrett Professor of Public Policy and Corporate Responsibility and Professor of Economics and Finance at Columbia Business School and Professor in the School of International and Public Affairs. He is a member of the Executive Committee of the Columbia Earth Institute. Dr. Heal earned a First Class Honors Degree, Cambridge University, U.K. Major in Economics and Minor in Physics (1966). He completed his graduate studies in Economics and Mathematics at University of California, Berkeley, 1966-67. He earned his Ph.D. in Economics at Cambridge University (1968). Dr. Heal's area of expertise and research include: economic theory, general equilibrium theory, economics of insurance and reinsurance and of risk-management, economics of natural and environmental resources, and the interface between economics and the natural sciences with respect to environmental issues. He has served as Chair of the National Academy – National Research Council Committee on the Valuation of the Services of Aquatic and Related Terrestrial Ecosystems. He is also the Commissioner of the Pews Ocean Commission, Director of the Union of Concerned Scientists and the Beijer Institute of Ecology and Economics of the Royal Swedish Academy of Sciences and a member of the President's Committee on Science and Technology (PCAST) Panel on Biodiversity and Ecosystems. Dr. Heal is also a member and Ex-President, Association of Environmental and Natural Resource Economists.

**Huggett, Robert****College of William and Mary**

Dr. Robert J. Huggett is an independent consultant and Professor Emeritus at the College of William and Mary in Williamsburg, VA, where he was a faculty member for 20 years. Dr. Huggett served as Vice President for Research and Graduate Studies at Michigan State University from 1997 to 2004. Before that, he was Assistant Administrator for Research and Development at the U.S. Environmental Protection Agency from 1994 to 1997. He earned an M.S. in Marine Chemistry from the Scripps Institute of Oceanography at the University of California at San Diego and a Ph.D. in Marine Science at William and Mary. As a scholar, Dr. Huggett has studied the fate and effects of hazardous chemicals in aquatic environments, publishing more than 90 articles. His work has had important effects on international environmental policy and he has been very active in research and policy organizations at the national and international level. While he was at the EPA, he served as Vice Chair of the Committee on Environment and Natural Resources and Chair of the Subcommittee on toxic substances and solid wastes, both of the White House Office of Science and Technology Policy. He also founded the EPA 100 million dollar-per-year STAR Competitive Research grants program and the 3 million dollar-per-year STAR Graduate Fellowship program. He presently serves on the Board Research Committee of the American Chemistry Council and on the Board on Environmental Studies and Toxicology of the National Research Council, National Academy of Sciences.

**MacLean, Douglas E.****University of North Carolina**

Dr. Douglas MacLean is Professor of Philosophy at the University of North Carolina Chapel Hill. He is also Director of the Parr Center for Ethics and has appointments in both the Carolina Environmental Program and the Program for Peace, War, and Defense. He received his B.A. from Stanford University and his Ph.D. in philosophy from Yale University. His previous positions include senior research scholar and director of the Institute for Philosophy and Public Policy at the School of Public Affairs of the University of Maryland College Park and Professor and Chair of the Department of Philosophy at the University of Maryland Baltimore County. From 1999-2001 he was the Distinguished Visiting Professor of Ethics at the U.S. Naval Academy. His research interests are in ethics, political philosophy, decision and risk analysis, military ethics, and philosophical issues in public policy. His current research focuses primarily on philosophical issues in decisions about risk, technology, and the environment, and the philosophical implications of the psychology and culture of decision making. He has written extensively on these topics. Dr. MacLean has served as an advisor or consultant to a number of government agencies, including: the National Science Foundation, the National Endowment for the Humanities, the U.S. Environmental Protection Agency, the U.S. Congress Office of Technology Assessment, the U.S. Nuclear Regulatory Commission, and the Departments of Energy and Agriculture.

**Mooney, Harold****Stanford University**

Dr. Harold A. Mooney holds the Paul S. Achilles Professorship in Environmental Biology at Stanford University. He received his PhD from Duke University in 1960 and was an Associate Professor at the University of California in Los Angeles until 1968 when he came to Stanford. His research on the carbon balance of plants has provided a major theoretical framework for ecophysiological studies, and has been instrumental in the incorporation of physiological understanding to studies of ecosystem processes. This work has also led to several lines of research on the nature of interactions of plants with their biotic environment, and has provided an objective measure for evaluating many of the current theories of plant-animal interaction. He has demonstrated that convergent evolution takes place in the properties of different ecosystems that are subject to comparable climates, and has pioneered in the study of the allocation of resources in plants. He has worked in many of Earth's diverse ecosystems, including the arctic-alpine, the mediterranean-climate scrub and grasslands, tropical wet and dry forests, and the deserts of the world. He is currently engaged in research on the impacts of global change on terrestrial ecosystems, especially on productivity and biodiversity, and is also examining those factors that promote the invasions of non-indigenous plant species. In recent years he has been involved in organizing international activities through which he brought together people from many diverse disciplines to address topics that promise to contribute substantially to the advancement and integration of ecology. Most recent of these are the programs on A Global Strategy for Invasive Species and on the Ecosystem Function of Biodiversity, both sponsored by the Scientific Committee on Problems of the Environment (SCOPE). Through these efforts and his lengthy publication record of over 400 scientific books, papers, and articles, he has developed bridges between physiological ecology and other areas of ecology, and he has explored the contributions that ecologists can make toward resolving the growing problems of global habitability. Among his many honors, he was elected to the National Academy of Sciences, the American Academy of Arts and Sciences, and the American Philosophical Society.

**Pitelka, Louis F.****University of Maryland Center for Environmental Science**

Dr. Louis Pitelka is a professor at the Appalachian Laboratory of the University of Maryland Center for Environmental Science. Research at the Appalachian Laboratory covers terrestrial and freshwater ecology with an emphasis on landscape and watershed ecology. Dr. Pitelka also currently is serving a two-year term as Science Advisor for the U.S. Department of Agriculture Competitive Grants Program. He received a B.S. in zoology from the University of California at Davis and a Ph.D. in biological sciences from Stanford University. Before moving to the University of Maryland in 1996, he held positions at Bates College, the National Science Foundation, and the Electric Power Research Institute. Dr. Pitelka's areas of expertise include plant ecology, ecosystem ecology, and global change. His research activities have ranged from studies of the population biology of forest understory herbs to the responses of terrestrial ecosystems to climate change. Dr. Pitelka has served on numerous planning, coordinating, and review committees for both national and international organizations. He is a member of the Department of Energy's Biological and Environmental Research Advisory Committee. He served five years on the Scientific Steering Committee of the Global Change and Terrestrial Ecosystems (GCTE) core project of the International Geosphere-Biosphere Program (IGBP), and was chair of GCTE in 2003. From 1995 through 2000 Dr. Pitelka was editor-in-chief of Ecological Applications and now is on the editorial boards of Oecologia and Frontiers in Ecology and the Environment. In 2003 he served as President of the Association of Ecosystem Research Centers.



**Polasky, Stephen****University of Minnesota**

Dr. Stephen Polasky holds the Fesler-Lampert Chair in Ecological/ Environmental Economics at the University of Minnesota. Dr. Polasky is a faculty member of the Department of Applied Economics and of the Department of Ecology, Evolution and Behavior and the interdisciplinary Conservation Biology Program. He received his Ph.D. in economics from the University of Michigan in 1986. Prior to coming to Minnesota he held faculty positions in the Department of Agricultural and Resource Economics at Oregon State University and the Department of Economics at Boston College. He was the senior staff economist for environment and resources for the President's Council of Economic Advisers 1998-1999. He served as associate editor and co-editor for the Journal of Environmental Economics and Management from 1996 to 2002. He served as a member of the National Research Council Committee on Assessing and Valuing Services of Aquatic and Related Terrestrial Ecosystems and serves as Co-Chair for Core Project 3: Developing the Science of Conservation and Sustainable Use of Biodiversity for DIVERSITAS. His research interests include biodiversity conservation and endangered species policy, integrating ecological and economic analysis, game theoretic analysis of natural resource use, common property resources, and environmental regulation.

**Risser, Paul G.****Oklahoma State Regents for Higher Education**

Dr. Paul Risser currently serves as Chancellor of the Oklahoma Higher Education System. Previously he served as President of Oregon State University (7 years), President of Miami University (3) years, and 6 years as Vice President for research and then Provost at the University of New Mexico. His bachelors degree in biology is from Grinnell College and his M.S. and Ph.D. in botany and soils is from the University of Wisconsin. He is a fellow of the American Association for the Advancement of Science and of the American Academy of Arts and Sciences. Dr. Risser's research has focused on ecosystem analysis, ranging from the physiological ecology of single species to mathematical models of entire ecosystems, especially as they respond to management. Dr. Risser has chaired and served on numerous committees for the National Science Foundation, National Research Council, and other state and federal agencies. He is the past president of the Ecological Society of America, American Institute of Biological Sciences, and of the Southwestern Association of Naturalists.

**Rolston, Holmes****Colorado State University**

Dr. Holmes Rolston is University Distinguished Professor of philosophy at Colorado State University. He has written six books, acclaimed in critical notice in both professional journals and the national press. The more recent are: *Genes, Genesis and God* (Cambridge University Press, 1999), *Science and Religion: A Critical Survey* (Random House, McGraw Hill, Harcourt Brace), *Philosophy Gone Wild* (Prometheus Books), *Environmental Ethics* (Temple University Press), and *Conserving Natural Value* (Columbia University Press). He has edited *Biology, Ethics, and the Origins of Life* (Jones and Bartlett, Wadsworth). He has written chapters in eighty other books and over one hundred articles. He is past-president of the International Society for Environmental Ethics and has served on the Board of Governors of the Society for Conservation Biology. He serves on the Advisory Board, American Association for the Advancement of Science, Program of Dialogue on Science, Ethics, and Religion. Rolston has served as a consultant with over two dozen conservation and policy groups, including the U. S. Congress and a Presidential Commission. He is a member of the Working Group on Ethics of the World Conservation Union (IUCN). He is a founder and the associate editor of *Environmental Ethics*, a refereed professional journal now in its seventeenth year, and on the editorial board of *Zygon: Journal of Science and Religion*, *Public Affairs Quarterly*, *Environmental Values*, *The South African Journal of Philosophy / Suid-Afrikaanse Tydskrif vir Wysbegeerte*, *Socijalna Ekologija* (Zabreg, Croatia), the *International Journal of Wilderness*, and *Conservation Biology*. He serves on a half dozen other editorial boards. He has been a recipient of NEH and NSF awards. He won the Pennock Award for Distinguished Service at Colorado State University, the Dean's Award for Creativity and Excellence in the Humanities, and has been named University Distinguished Professor. He holds a B.S. from Davidson College, a Ph.D. from the University of Edinburgh in Theology and Religious Studies, an M.S. in the Philosophy of Science from the University of Pittsburgh, and a Doctor of Letters from Davidson College, 2002.

**Roughgarden, Joan****Stanford University**

Dr. Joan Roughgarden spent her early childhood in the Philippine Islands and Indonesia. She majored in biology and philosophy at the University of Rochester, and received a Ph.D. in theoretical ecology from Harvard University. She is Professor of Biological Sciences at Stanford University, and author, coauthor or editor of six books and over 120 papers in academic journals. Her books as sole author include: Theory of Population Genetics and Evolutionary Ecology (Macmillan), Primer of Ecological Theory (Prentice Hall), Anolis Lizards of the Caribbean (Oxford University Press) and most recently, Evolution's Rainbow: Diversity, Gender and Sexuality in Nature and People (University of California Press). She founded and directed the Earth Systems Program at Stanford, and was awarded for service to undergraduate education. She has also supervised over 30 doctoral and postdoctoral students. She has served on science advisory committees for marine protected areas in the Channel Islands National Marine Sanctuary. She has been a member of grant-review panels for the National Science Foundation and the Department of Energy, and has been an editor of the American Naturalist, Oecologia and the Journal of Theoretical Population Biology. Joan lives in San Francisco where she has also serve on citizen advisory committees for recreation, parks, and natural areas. Her current research links ecology with economic theory.

**Sagoff, Mark****University of Maryland**

Dr. Mark Sagoff is Senior Research Scholar in the Institute for Philosophy and Public Policy at the School of Public Affairs at the University of Maryland, College Park, and has published widely in journals of law, philosophy, and the environment. He was named a Pew Scholar in Conservation and the Environment in 1991. He served from 1994-1997 as President of the International Society for Environmental Ethics. For the academic year 1998-99, Dr. Sagoff was awarded a fellowship at the Woodrow Wilson International Center for Scholars. He is a Fellow of the Hastings Center and in 2000 he was elected a Fellow of the American Association for the Advancement of Science. Dr. Sagoff has an A.B. from Harvard and a Ph.D. (Philosophy) from the University of Rochester, and he has taught at Princeton, the University of Pennsylvania, the University of Wisconsin (Madison), and Cornell before coming to the University of Maryland. Dr. Sagoff served on the Committee on Noneconomic and Economic Value of Biodiversity, Board on Biology, Commission on Life Sciences, National Research Council, 1997-99, is Coeditor of the Journal of Policy Analysis and Management, and belongs to the editorial boards of various journals in ethics, the life sciences, and public policy.

**Segerson, Kathleen****University of Connecticut**

Dr. Kathleen Segerson is professor and head in the Department of Economics at the University of Connecticut. Prior to coming to the University of Connecticut, Professor Segerson was an assistant professor of Natural Resource Economics at the University of Wisconsin. She is currently a co-editor of the Ashgate Studies in Environmental and Natural Resource Economics, and a member of the editorial board of the International Yearbook of Environmental and Resource Economics and Contemporary Economic Policy. She has previously served as a co-editor and an associate editor of the American Journal of Agricultural Economics and an associate editor of the Journal of Environmental Economics and Management. She has also served as Vice-President and a member of the Board of Directors of the Association of Environmental and Resource Economists (AERE), and on several other subcommittees for AERE and the American Agricultural Economics Association (AAEA). Dr. Segerson's research focuses on the incentive effects of alternative environmental policy instruments, with particular emphasis on the application of legal rules and principles to environmental problems. Specific research areas include: the impact of legal liability for environmental damages in a variety of contexts, including groundwater contamination, hazardous waste management, and workplace accidents; land use regulation and the takings clause; voluntary approaches to environmental protection; the impacts of climate change on U.S. agriculture; and incentives to control nonpoint pollution from agriculture. Dr. Segerson received a BA degree in mathematics from Dartmouth College in 1977 and a PhD in agricultural and natural resource economics from Cornell University in 1984.



**Slovic, Stewart Paul****Decision Research**

Dr. Paul Slovic is president of Decision Research and a professor of psychology at the University of Oregon. He studies human judgment, decision-making, and risk analysis, and has published extensively on these topics. Dr. Slovic received a B.A. degree from Stanford University, an M.A. and Ph.D. degree from the University of Michigan, and an honorary doctorate from the Stockholm School of Economics. He is past president of the Society for Risk Analysis and in 1991 received its Distinguished Contribution Award. In 1993, Dr. Slovic received the Distinguished Scientific Contribution Award from the American Psychological Association, and in 1995 he received the Outstanding Contribution to Science Award from the Oregon Academy of Science. Dr. Slovic has served on numerous advisory committees of the National Research Council/National Academy of Sciences including the committees that wrote "Risk Assessment in the Federal Government: Managing the Process" (1983) and "Understanding Risk: Decision Making in a Democratic Society" (1996).

**Smith, V. Kerry****North Carolina State University**

Dr. V. Kerry Smith is University Distinguished Professor and Director, Center for Environmental and Resource Economic Policy in the Department of Agricultural and Resource Economics at North Carolina State University as well as a University Fellow in the Quality of the Environment Division of Resources for the Future. Since October 2000 he has been a member of the U.S. EPA's Advisory Council on Clean Air Compliance Analysis and in 2001 he was a member of the Arsenic Rule Benefits Review Panel of EPA's SAB. Dr. Smith received his A.B. and Ph.D. in Economics from Rutgers University. He presented the Frederick V. Waugh Lecture for the American Agricultural Economics Association (AAEA) in 1992 and at the 2002 AAEA annual meeting he was named an AAEA Fellow. In 2004 he was elected a member of the National Academy of Sciences. Dr. Smith is a member of the American Economic Association, the Southern Economic Association, the Association of Environmental and Resource Economists, and several other professional associations. He has also held editorial positions with the Journal of Environmental Economics and Management, Land Economics, Review of Economics and Statistics, and other professional journals. His research interests include non-market valuation of environmental resources, role of public information in promoting private risk mitigation, non-point source pollution and nutrient policy, and the linking of ecological and economic models.

**Stavins, Robert****Harvard University**

Dr. Robert N. Stavins is the Albert Pratt Professor of Business and Government, Chairman of the Environment and Natural Resources Faculty Group at the John F. Kennedy School of Government, Harvard University, and Director of the Environmental Economics Program at Harvard University. He is a University Fellow of Resources for the Future, Past Chairman of the Environmental Economics Advisory Committee of the U.S. Environmental Protection Agency's (EPA) Science Advisory Board, Director of the University-wide Environmental Economics Program at Harvard University; and a Member of: the Board of Directors of Resources for the Future; EPA's Clean Air Act Advisory Committee, the Intergovernmental Panel on Climate Change (IPCC), the Board of Directors of the Robert and Renée Belfer Center for Science and International Affairs, the Executive Committee of the Harvard University Committee on Environment (UCE), the Board of Academic Advisors of the AEI-Brookings Joint Center for Regulatory Studies. He serves on Editorial Boards of The Journal of Environmental Economics and Management, Resource and Energy Economics, Land Economics, Environmental Economics Abstracts, B.E. Journals of Economic Analysis & Policy, and Economic Issues. He is also a contributing editor of Environment, and was formerly a member of the Board of Directors of the Association of Environmental and Resource Economists. Professor Stavins' research has focused on diverse areas of environmental economics and policy, including examinations of: policy instrument choice under uncertainty; competitiveness effects of regulation; design and implementation of market-based policy instruments; diffusion of pollution-control technologies; and depletion of forested wetlands. His current research includes analyses of: technology innovation; environmental benefit valuation; political economy of policy instrument choice; and econometric estimation of carbon sequestration costs. Professor Stavins directed Project 88, a bi-partisan effort co-chaired by former Senator Timothy Wirth and the late Senator John Heinz, to develop innovative approaches to environmental and resource problems. He continues to work closely with public officials on matters of national and international environmental policy. He has been a consultant to the National Academy of Sciences, several Administrations, Members of Congress, environmental advocacy groups, the World Bank, the United Nations, the U.S. Agency for International Development, state and national governments, and private foundations and firms. Prior to coming to Harvard, Stavins was a staff economist at the Environmental Defense Fund; and before that, he managed irrigation development in the middle east, and spent four years working in agricultural extension in West Africa as a Peace Corps volunteer.

**Thompson, Jr., Barton H. (Buzz) Chair****Stanford University**

Dr. Barton H. Thompson, Jr., is Vice Dean and Robert E. Paradise Professor of Natural Resources Law at Stanford Law School, a Senior Scholar (by courtesy) at the Stanford Institute for International Studies, and a member of both the Core Faculty and Executive Committee of Stanford University's Interdisciplinary Graduate Program in Environment and Resources. He received an A.B. in Economics from Stanford University in 1972, an M.B.A. from the Stanford Graduate School of Business in 1976, and a J.D. from Stanford Law School in 1976. He has been a member of the Stanford faculty since 1986. Professor Thompson's research focuses on the interdisciplinary analysis (with an emphasis on economics, law, and cognitive psychology) of environmental and natural resource policies and the formulation of innovative tools and approaches for addressing environmental and natural resource issues. He has written several articles on the opportunities for and barriers to investments in ecosystem services and co-organized a workshop conference at Stanford University in November 2000 on Protecting Ecosystem Services: Science, Economics, and Law.